



London Borough of Lewisham
Asset Management Strategy (Highways)

June 2019
Version 1.1

AMS (HIGHWAYS) MODULE I – EXECUTIVE SUMMARY

Overview... Lewisham as a Highway Authority is responsible for managing and maintaining the highway assets falling within its 392km of public road network. It is responsible for ensuring that the highway assets are fit for purpose and able to fulfil their functions in an efficient and sustainable manner.

Lewisham Council's Corporate Strategy 2018-2022, sets out a vision for Lewisham. The goals, objectives, and outcomes for the Council's intelligent management and delivery of highways' projects and maintenance are set out in this strategy and are aligned with the Council's Corporate Priorities. In particular it impacts on the following:

- **Open Lewisham** – Lewisham is a welcoming place of safety for all, where we celebrate the diversity that strengthens us.
- **Making Lewisham greener** – Everyone enjoys our green spaces, and benefits from a healthy environment as we work to protect and improve our local environment.
- **Building safer communities** – Every resident feels safe and secure living here as we work together towards a borough free from crime.

To support these priorities an Asset Management Strategy (Highways) has been developed to ensure a focus on managing the highway network.

Lewisham has adopted asset management best practice to help ensure that the greatest benefit for the whole community is achieved. Asset management best practices require seeking long-term investments to make best use of resources and ensure that the right interventions are implemented at the most effective time to ensure the statutory requirement of a safe highway.

Lewisham is working in partnership with the London Technical Advisory Group (LoTAG) south sector boroughs to develop a common understanding and approach towards highways asset management. This Consortium reviews guidance and tools available and assesses how best asset management should be implemented to meet the community's needs. Moreover, the Consortium enables Lewisham to benchmark against the other authorities to provide challenge in the way it operates and delivers its services.

Overall performance... Lewisham manages its network performance through performance indicators, which align to and contribute towards achieving the Council's strategic vision and the objectives set out in the Mayor's Transport Strategy. Performance management contributes to effective use of the Council's budgets. Lewisham's 2017/18 performance is as shown in Table i1.

Investment... In 2018/19, Lewisham had a total budget of £4.9 million, of which £2.8 million was

capital expenditure (exclusive of lighting and precept costs) and £1.3 million was maintenance expenditure.

Engagement... Lewisham engages with a number of key stakeholders to inform its decision making processes. This ensures the social and economic benefit of the use of the road network is recognised. Such consultations help to establish and prioritise an annual works programme based on community need and taking into account the stakeholder's most important considerations.

Progress... Lewisham is to use an implementation and improvement plan to develop and deliver a continuous improvement programme to enhance its highways asset management processes, systems and data, and support effective delivery of its desired asset management outcomes. These outcomes will be reported annually in the 'State of the Highway' report to draw together progress, performance and investment impact.

Table i1: Lewisham's performance dashboard.

Asset Group	Performance Indicators	Performance			
	Description	In need of repair	Current	Target (2019/20)	Target (Long term)
Carriageways ¹	% of Principal roads where maintenance should be considered	Red	9.7%	6.0%	5.0%
		Amber	8.5%	15.0%	15.0%
		Green	81.8%	79.0%	80.0%
	% of Non-Principal Classified roads where maintenance should be considered	Red	0%	5.0%	5.0%
		Amber	22.5%	20.0%	20.0%
		Green	77.5%	75.0%	75.0%
	% of Unclassified roads where maintenance should be considered	Red	1.7%	5.0%	5.0%
		Amber	28.2%	25.0%	20.0%
		Green	70.1%	70.0%	75.0%
Footways ²	% of footways where maintenance should be considered	Red	3.1%	5.0%	5.0%
		Amber	16.9%	20.0%	20.0%
		Green	80.0%	75.0%	75.0%
Structures ³	% of bridges meeting the required carrying capacity		70.8%	90.0%	90.0%
Street Lighting ⁴	% of lighting points working as planned		100%	99.0%	99.0%
	% of lighting column stock that is beyond its design life		0%	5%	5%
	% of structural failures for those street lighting columns tested		0%	0%	0%
Drainage ⁵	% of gullies cleansed		63%	80%	90%

¹ Condition data for Carriageway is provided by Lewisham for investment modelling. Current year's condition data (2018/19) is being collected.

² Condition data for Footway is provided by Lewisham for investment modelling. Current year's condition data (2018/19) is being collected.

³ Condition data for Structures is from the LoTAG submission (2017/18). Current year's condition data (2018/19) is yet to be provided by BridgeStation.

⁴ Condition data for Street Lighting is from the LoTAG submission (2018/19).

⁵ Condition data for Drainage is from the LoTAG submission (2018/19).

AMS (HIGHWAYS) MODULE II - CONTENTS & REFERENCES

Module A	Policy & Objectives Setting the scene for delivering the right outcomes.	Ver. 1.0	June 2019
Module B	Context Outlining asset management as a best practice approach.	Ver. 1.0	June 2019
Module C	Asset Knowledge Collecting, storing and managing data.	Ver. 1.0	June 2019
Module D	Performance Management Establishing goals for the performance that will be delivered.	Ver. 1.0	June 2019
Module E	Funding & Expenditure Historic expenditure and future funding.	Ver. 1.0	June 2019
Module F	Maintenance Strategies Determining the most effective strategies for maintenance intervention on a whole life cost basis.	Ver. 1.0	June 2019
Module G	Investment Strategies Understanding the impact of different levels of investment. Establishing the	Ver. 1.0	June 2019

	backlog to achieve desired condition and the cost of steady state investment.		
Module H	Works Programme Developing the programme of works that will be delivered.	Ver. 1.0	June 2019
Module I	Stakeholder Engagement Working with the community to ensure the outcomes of managing the asset meet the needs of the community.	Ver. 1.0	June 2019
Module J	Benchmarking Comparing how Lewisham is performing.	Ver. 1.0	June 2019
Module K	Valuation Valuation of highway assets compliant with Whole of Government Accounts and CIPFA Code of Practice.	Ver. 1.0	June 2019
Module L	Implementation & Improvement Plan Plan for implementing asset management and maximising benefit.	Ver. 1.0	June 2019

Abbreviations... A list of abbreviations used in the Highway Asset Management Plan.

BSi	British Standards Institute
CIL	Community Infrastructure Levy
CIPFA	Chartered Institute of Public Finance and Accountancy
DCLG	Department of Communities and Local Government
DfT	Department for Transport
DRC	Depreciated Replacement Cost
GRC	Gross Replacement Cost
AMS (Highways)	Asset Management Strategy (Highways)
HMEP	Highway Maintenance Efficiency Programme
IAM	Institute of Asset Management
IFRS	International Financial Reporting Standards
Lewisham	London Borough of Lewisham
LoTAG	London Technical Advisors Group
PAS	Publically Available Specification
Section 106	Section 106 of Town and Country Planning Act (1990)
Section 278	Section 278 of Highways Act (1980)
SLHAM Consortium	South London Highway Asset Management Consortium
TfL	Transport for London
UKPMS	United Kingdom Pavement Management System
UKRLG	United Kingdom Roads Liaison Group
WGA	Whole of Government Accounts

ISO 55000 – Asset Management Systems	2014	BSi
Business Rates Retention Guide	2012	DCLG
Code of Practice on Transport Infrastructure Assets	2010	CIPFA
Equalities Act 2010		Public-Sector Equality Duty
Highway Infrastructure Asset Management Guidance	2013	UKRLG
Maintaining a Vital Asset	2013, update	HMEP/UKRLG
Management of Highway Structures	2013, update	Code of Practice – UKRLG
The Community Infrastructure Levy	2011	DCLG
Well Lit Highways	2013, update	Code of Practice - UKRLG
Well Maintained Highways	2013, update	Code of Practice - UKRLG
Whole of Government Accounts Guidance		HM Treasury

Reference Documents... A list of key reference documents and information used in the Highway Asset Management Plan. These are cited in the ‘Further Information’ section of each module, with web links where available.

AMS (HIGHWAYS) MODULE A – POLICY & OBJECTIVES

What... Lewisham is committed to managing and maintaining its highway assets to ensure they are fit for purpose and fulfil their functions in an efficient and sustainable manner. Lewisham reviews its policies regularly to ensure they are appropriate and reflect its statutory duties, best practice and stakeholder requirements.

Why... *Lewisham Council Corporate Strategy 2018-2022*, sets out a vision for Lewisham;

The Priorities include:-

- **Open Lewisham** – Lewisham is a welcoming place of safety for all, where we celebrate the diversity that strengthens us.
- **Making Lewisham greener** – Everyone enjoys our green spaces, and benefits from a healthy environment as we work to protect and improve our local environment.
- **Building safer communities** – Every resident feels safe and secure living here as we work together towards a borough free from crime.

Lewisham aims to provide a highway network that delivers these priorities through an Asset Management Strategy. This is supported by objectives to ensure a focus on managing its highway assets with long-term prudence.

Who... The responsibilities for the 'Policy & Objectives' module lie with:

Sign off policy	Mayor & Cabinet
Establish objectives	Service Group Manager Highways and Transport
Updating & reporting module	Asset Network Manager Highways Manager

How... Lewisham aims to:

- Maintain its assets in a state of good repair, meeting performance targets (Module D).
- Ensure its assets are safe for the public.
- Plan for the effects of changing demands.

In managing its assets, Lewisham aims to:

- Recognise that resources are limited, and therefore, prioritise the maintenance of assets based on their associated risk.
- Utilise the asset management principles of life cycle planning and whole life costing to minimise the cost of asset ownership.
- Take a proactive approach to maintenance, favouring cost effective preventative treatments over reactive repairs.

- Utilise quality and up-to-date asset inventory and condition information to inform decisions and take a prioritised approach towards asset data collection.
- Invest in the public realm to assist in the transformation of the borough.
- Seek access to external funding sources with robust business cases to pay for, or contribute to asset investment.
- Support its statutory duties as a highway authority under the Highways Act 1980, the New Roads and Street Works Act 1991, the Transport Act 2000, and the Flood and Water Management Act 2010 with sound asset management practices.
- Protect its assets from accidental damage by monitoring property development and statutory utility works.

Reporting... Reporting on delivery of the Policy and Objectives is done through an annual 'State of the Highway' report and also reflected in updates to the AMS (Highways).

Success measures... Recognition and adoption of stated aims, objectives and performance measures and performance outcomes which will demonstrate success.

Further Information:
Lewisham Council Corporate Plan
Regeneration Strategy
Legislation

AMS (HIGHWAYS) MODULE B - CONTEXT

What... Asset management is a best practice approach endorsed by the Government and the Audit Commission. Maintaining valuable assets essential for the economic and social health Lewisham requires integrated, pragmatic and focused investment to ensure the biggest benefit for the whole community is achieved.

Long-term investment is required to make best use of resources and ensure the right interventions are implemented at the most effective time, whether it is capital investment or reactive maintenance to ensure a safe highway, a statutory requirement.

Why... Lewisham currently has a population of 286,000, up 10,000 from the 2011 Census. It is the 5th most populous inner London borough. The number of households is predicted to rise from 116,548 in 2011 to 138,900 in 2021. Between 2012 and 2026, provision is being made for 17,100 new homes across the borough, while at least 66,000 m² of additional retail and leisure space will be provided in the borough's two highest-profile town centres, Lewisham and Catford.

The 2011 census showed that 25% used car/van/motorcycle/taxi as their mode of travel to work and 11% walked or cycled compared to 35% and 9% respectively in 2001 so there is a greater reliance on public transport coupled with more people who now work from home

Spending public money must demonstrate value and be aligned to the needs of the businesses and the residential community. Ensuring the right facilities have the right level of accessibility, and are maintained to safe standards to meet the duties of the Highways Act (1980), will enable Lewisham to develop as a safe and accessible borough open for business and a great place to live.

With a long-term investment programme, Lewisham can align this work with other 'place making', strategies to maximise benefits. Better planning of maintenance works will lead to greater economies of scale, as well as, maximising the life of treatment through a reduction in the whole life cost. A typical 1m² pothole costs around £15-£50 to repair and typically has a short lifecycle, while it costs around £21-£68/m² to resurface a road for up to 40 years. Therefore, the move to capital investment is essential to reduce risk, reduce the cost of reactive maintenance, and minimise disruption to the road users.

Who... The responsibilities for the 'Context' module lie with:

Statutory duty	Service Group Manager Highways & Transport Manager
Overall reporting	Highways Manager
Updating & reporting module	Asset Network Manager

How... Lewisham works with other LoTAG south sector boroughs through the SLHAM Consortium. Through this Consortium Lewisham works to develop a common understanding and approach to asset management to meet its particular needs.

The Consortium reviews guidance and tools developed by the Department for Transport's HMEP, UKRLG, IAM, as well as, the evolution of ISO55000, a global standard for asset management.

From the guidance and tools available, the group assesses how best to implement asset management, and then, Lewisham decides how it will develop and implement the best aspects of asset management to meet its needs.

Reporting... To ensure investment and outcomes remain effective, the modular AMS (Highways) provides a suite of measures to explore and demonstrate success or otherwise. From this, improvement actions can be developed, and discussed with peers at the SLHAM Consortium.

An annual 'State of the Highway' report is produced to draw together progress, performance and investment impact. The report is proposed to be produced annually to reflect the latest asset value, and over time will move as near to the financial year end in early April as practical. This to be reported into the Regeneration Directorate Business Plan to ensure integration of investment plans.

Table B2 shows the ownership and reporting across the AMS (Highways) modules to support long-term implementation, improvement and realisation of the benefits which asset management brings.

Success Measures... An evolving approach to managing the highway assets of Lewisham will show an improvement, and success in maintaining the Councils’ highway network efficiently. This approach will be aligned with prudent investment strategies delivering demonstrable benefits to the community, through achieving performance improvement targets and maximising the benefit of capital investment and revenue expenditure across the highway network.

To deliver success, the following activities will be essential for the efficacy and demonstrable benefit of asset management:

- An Annual Asset Management Maturity Assessment and the associated reporting to ensure progress towards the stated objectives.
- Asset Valuation for WGA to ensure the asset retains the desired value.
- Updating expenditure figures to assess the expenditure against investment strategies.
- Updating the performance measures and assessing progress against targets.

This review process needs to ensure the stated aims remain current and in-line with corporate aims including that captured in the Regeneration Directorate Business Plan. Should the aims change, this AMS (Highways) must be revised to reflect the new aims/targets for performance and outcomes.

Further Information:
HMEP/UKRLG – Maintaining a Vital Asset
UKRLG – Highways Infrastructure Asset Management Guidance Document
ISO 55000 Asset Management Systems - BSI

Table B2: Ownership and reporting of modules.

Module	Responsible	Version	Next Review	Reporting	
				How	When
A Policy & Objectives	Service Group Manager	V1.0	June 2020	‘State of the Highway’ report	December 2020
B Context	Service Group Manager	V1.0	June 2020	‘State of the Highway’ report	December 2020
C Asset Knowledge	Asset Network Manager Highways Manager	V1.0	June 2020	Module D – Performance Management Module I – Stakeholder Engagement Module K – Valuation	TBA
D Performance Management	Highways Manager	V1.0	June 2020	Performance dashboard updates and ‘State of the Highway’ report	December 2020
E Funding & Expenditure	Service Group Manager	V1.0	June 2020	‘State of the Highway’ report	December 2020
F Maintenance Strategies	Asset Network Manager	V1.0	June 2020	‘State of the Highway’ report	December 2020
G Investment Strategies	Highways Manager/ Asset Network Manager	V1.0	December 2020	‘State of the Highway’ report	December 2020

H	Works Programme	Highways Engineering Manager	V1.0	June 2020	Forward works programme	Jan 2020
I	Stakeholder Engagement	Highways Engineering Manager	V1.0	Dec 2020	'State of the Highway' report	December 2020
J	Benchmarking	Highways Engineering Manager/Asset Network Manager	V1.0	Ongoing	AMS (Highways) strategies updates and 'State of the Highway' report	December 2020
K	Valuation	Finance Officer	V1.0	Dec 2020	WGA valuation report	June 2020
L	Implementation & Improvement Plan	Highways Manager	V1.0	Dec 2020	Improvement action plan	July 2020

AMS (HIGHWAYS) MODULE C – ASSET KNOWLEDGE

What... Asset knowledge comprises inventory and condition data for the highway assets Lewisham is responsible for.

Collection and maintenance of asset data is required to assist managers in assessment, analysis and reporting of performance, progress and future need. This can be linked to regeneration and investment strategies and wider public realm asset data to ensure a total place approach. The integration of such asset knowledge and systems are crucial to ensure optimal investment decisions are made.

Why... Asset data is required to enable Lewisham undertake the following processes:

- Monitor and report on the condition of the highway network.
- Assess the expected lives of individual assets or asset components.
- Evaluate performance indicators.
- Model future maintenance options.
- Identify future investment strategies.
- Investigate and manage risk.
- Develop short- and long-term forward works programmes.

- Analyse and report financial values for WGA. These processes enable Lewisham to make informed and cost-effective decisions.

Who... The responsibilities for the ‘Asset Knowledge’ module lie with:

Data collection	Highway Engineering Manager & Asset Network Manager
Data management	Asset Network Manager
Updating & reporting module	Asset Network Manager

How... Data is an expensive commodity to collect, store and keep up to date. It is essential to ensure data collected and held can be trusted and remains current to support performance reporting and decision making.

Lewisham adopts a pragmatic approach to the collection of data to ensure the same data can be used for multiple tasks and that the level of sophistication meets the needs of the authority. Table C1 and Table C2 provide an overview of the data collected and the resources used.

Within the field of data collection it is important to keep abreast of innovation and new techniques in

the market and the SLHAM Consortium helps Lewisham achieve this, and provides an opportunity for benchmarking rates and approaches to data collection.

Reporting... Lewisham uses the asset inventory shown in Table C2 to quantify the extent of its highway assets. This data is then used to feed in to other AMS (Highways) Modules to report on asset performance, including module D – Performance Management, module I – Stakeholder Engagement, and module K – Valuation.

Success Measures... Apart from feeding in to other AMS (Highways) modules, asset knowledge will help Lewisham to support statutory requirements. Moreover, this will greatly help in making effective and informed decisions.

Further Information:
Highway Infrastructure Asset Management Guidance document, HMEP – UK RLG, 2013
UK Pavement Management System (UKPMS)
UK Roads Liaison Group - Codes of Practice

Table C3: Lewisham’s asset condition assessment.

Asset Group	Asset Type	Type of Survey	Network coverage	Frequency	Service Provider	System
Carriageways	Principal Classified Roads (A roads)	SCANNER - road condition survey	100%	Annually	London Borough of Hammersmith and Fulham	
		SCRIM - skidding resistance survey	100%	Annually		
	Non-Principal Classified Roads (B & C roads)	Coarse Visual Inspection (CVI) Surveys	100%	3 years	External	
	Unclassified roads (U roads)	Coarse Visual Inspection (CVI) Surveys	100%	3 years		
Footways	All Categories	Safety Inspections	100%	As per Inspection Frequency	Safety Inspectors (Lewisham)	Confirm
Highway Structures	All Structures; Bridges, Tunnels, Subways	Principal Inspections	100%	Every 6 years	External consultants	Bridgestation
	All Structures; Bridges Tunnels, Subways	General Inspection	100%	Every 2 years		
	Retaining Walls		As required.			
Street Lighting	Lighting columns	Managed through Street Lighting PFI by Skanska for 25 years from 2011.				
Street Furniture	All street furniture	Routine safety inspections	100%	As per Inspection Frequency	Safety inspectors (Lewisham)	Confirm
Drainage	All gullies	Gully inspection and cleansing	100%	Cyclical	Council, Term Contractors	

Table C4: Lewisham’s asset inventory.

Asset Group	Asset Type	Quantity		Asset Group	Asset Type	Quantity	
		Length/Number	Width				
Carriageways	Principal Classified Roads (A roads)	23.2 km	11.7m	Street Lighting	Columns	17,253	
	Non-Principal Classified Roads (B roads)	18.8 km	10.3m		Wall lights	43	
	Non-Principal Classified Roads Class III Roads / C Roads)	26.1 km	8.25m		Central island beacons	19	
	Unclassified roads (U roads)	328.6 km	7.6m		Pedestrian crossings	134	
	TOTAL	396.7 km			Surface mounted lights / Spotlights	2	
Footways	A Roads	33.7 km	4.23m		Street Furniture	Illuminated Signs	2,220
	B Roads	37.6 km	3.25m			Non-Illuminated signs and bollards	22,900
	C Roads	48.8 km	2.95m	Pedestrian Barriers			
	Unclassified Roads	657.1 km	2.37m	Safety Fencing			
	Footpaths	12.0 km	4.00m	Land	Urban	5,140,000m ²	
	TOTAL	789.2 km			Rural	-	
Highway Structures	Highway Bridge – Single span	32 No.		Drainage	TOTAL	5,140,000m ²	
	Highway Bridge – 2/3 span	3 No.			Gullies	15,296	
	Highway Bridge – Multi span	1 No.					
	Pedestrian / Cycle Bridge – Single span	20 No.					
	Pedestrian / Cycle Bridge – Multi span	2 No.					
	Culvert – Single cell	4 No.					
	Culvert – Multi cell	1 No.					
	Pedestrian subway / Underpass	1 No.					
	Highway Underpass	0 No.					
	Retaining Wall <3m	32 No.					
	Retaining Wall > 3m	13 No.					
	Special Structures	9 No.					
	TOTAL	118 No..					

Key

Good Data	
Derived Data	
To collect/improve	

AMS (HIGHWAYS) MODULE D - PERFORMANCE MANAGEMENT

D.1. What... Performance management is the process by which Lewisham communicates its objectives for the highway assets and monitors performance.

D.2. Why... Lewisham has adopted this approach to ensure highway asset maintenance functions on the ground are aligned to and contribute to achieving the Council’s corporate vision and objectives laid out in the London Mayor’s Transport Strategy.

D.3. Who... The responsibilities for the ‘Performance Management’ module lie with:

Approving targets	Highway Manager
Monitoring performance	Highway Engineering Manager/ Asset Network Manager
Updating & reporting module	Highway Engineering Manager

D.4. How... Lewisham has adopted performance management according to ISO 55000, Asset Management Systems, and as outlined in the HMEP – UK RLG Highway Infrastructure Asset Management Guidance document (2013).

Relevant high level drivers were identified from Lewisham’s Corporate Plan and from the London Mayor’s Transport Strategy. These have been translated into four highways performance target statements, which drive all of Lewisham’s highway maintenance activities, Figure D1.

Asset specific performance target statements have also been developed to identify the key objectives for each of the main highway asset groups which require integration with “place making” drivers from the Regeneration Strategy.

The performance target statements are supported by a suite of performance indicators, which have been selected to enable performance monitoring and target setting against the objectives, Table D2.

Through the SLHAM Consortium, these performance indicators were further evaluated and assessed against London wide service levels to establish excellent, good and poor service levels. These service levels also serve to identify the risk in managing the service below the desired standard. This enables target setting and prioritisation based on sound risk analysis.

D.5. Reporting... Lewisham uses a performance dashboard to illustrate the performance

management system adopted, as shown in Table D2. It considers all the assets under the Council’s remit, outlining for each, multiple performance indicators, their current condition, and their short- and long-term targets mapped to risk categories.

This process ensures Lewisham focuses its effort and investment into the areas that positively impact the high-level drivers and represent the highest level of risk to the Council. The cost of attaining target PIs is discussed in AMS (Highways) module G – Investment Strategies.

D.6. Success Measures... Apart from providing a direct link to the Council’s corporate vision and a reduction in insurance claims, performance management will help Lewisham demonstrate the effective use of its budgets. This will also demonstrate any funding gaps needed, which will be targeted to ensure the transport network is fit for purpose and with an acceptable level of risk.

Further Information:
ISO 55000 Asset Management Systems
Highway Infrastructure Asset Management Guidance document, HMEP – UK RLG, 2013
LoTAMB for setting service levels

Figure D1: Asset performance indicators setting.

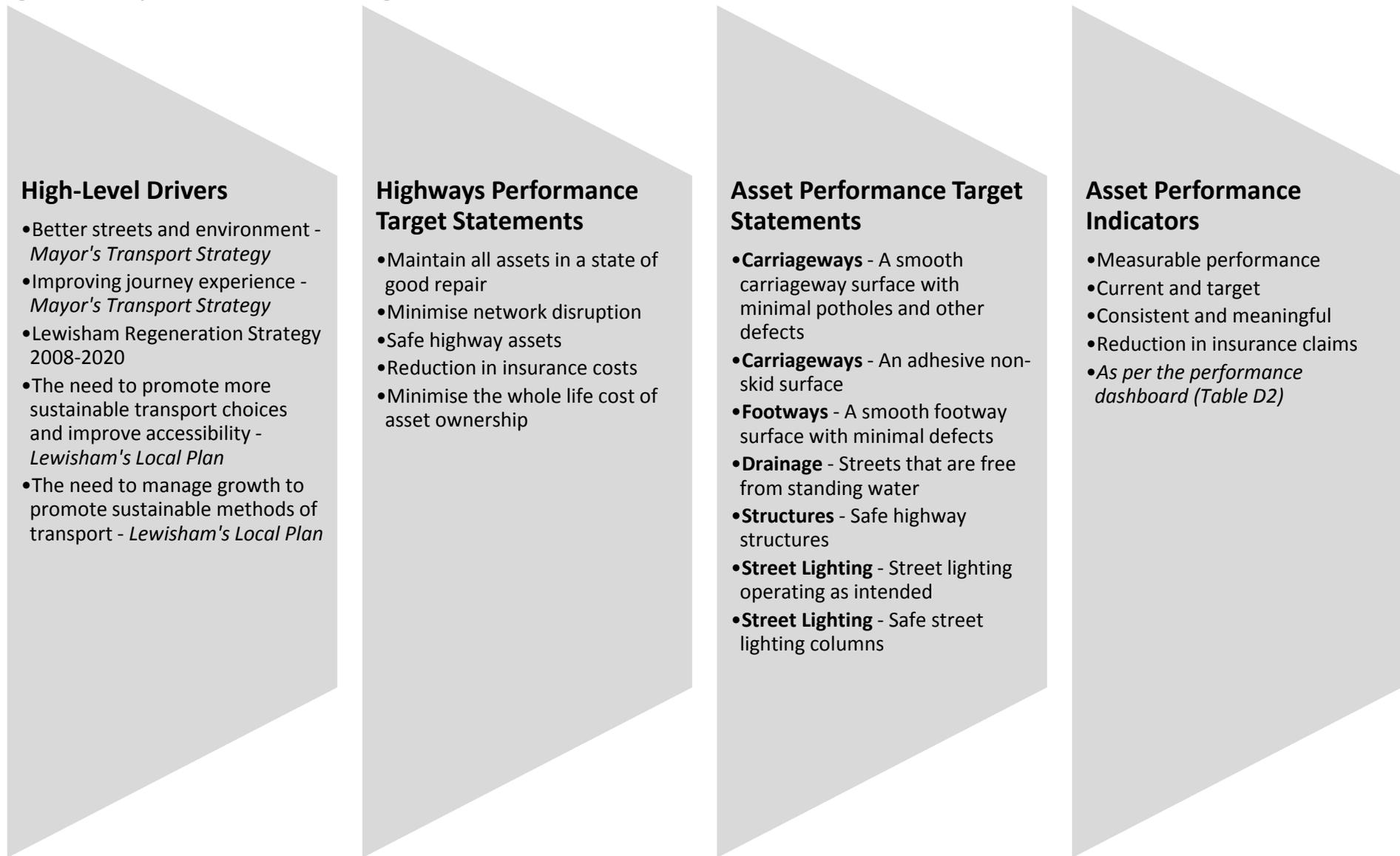


Table D2: Lewisham’s performance dashboard.

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⁹ Condition data for Street Lighting is from the LoTAG submission (2018/19).

¹⁰ Condition data for Drainage is from the LoTAG submission (2018/19).

AMS (HIGHWAYS) MODULE E – FUNDING & EXPENDITURE

D.7. **What...** Funding is the financial support Lewisham uses to maintain its highway assets. This is generally obtained from various streams, primarily the central government, including TfL the Council, and locally generated revenue. This module looks at current and future funding sources, as well as, expenditure received historically to help understand impact on performance.

D.8. **Why...** Lewisham needs to stay abreast of developments in funding and revenue opportunities, and with changes in government funding to be able to raise revenue locally.

The highways team needs to, therefore, ensure the best case is put forward for funding from funds available through CIL, Section 278, Section 106 and business rates as these provide income to the authority. Such other funding may also be a consequence of a pro-active approach to integrated place making and development.

D.9. **Who...** The responsibilities for the ‘Funding & Expenditure’ module lie with:

Defining budget need
 Developing income opportunity
 Monitoring expenditure
 Updating & reporting module

Service Group Manager
Engineering Manager
Highways Manager/ Policy Manager / Engineering Manager
Budget Holders
Highways Manager/Asset Network Manager

D.10. **How...** Lewisham investigates alternative funding opportunities to invest in the highway infrastructure with the aim of reaching and maintaining a steady-state condition in its network.

Council funding from Capital sources include that from TfL, Capital Reserves and the Community Infrastructure Levy. Other funding opportunities can be through DfT and from highways agreements with developers.

Expenditure is monitored to express the overall funding, income splits and capital / revenue split for the authority and is documented.

D.11. **Reporting...** Expenditure is monitored on an annual basis, Figure E2. This provides an overview of the diversity of the income streams from internal and

external sources and how this is spent through capital and revenue budgets.

Figure E2 is updated annually and the capital / revenue expenditure is reported through the annual ‘State of the Highway’ report which will be fed into the Directorate Regeneration Business Report.

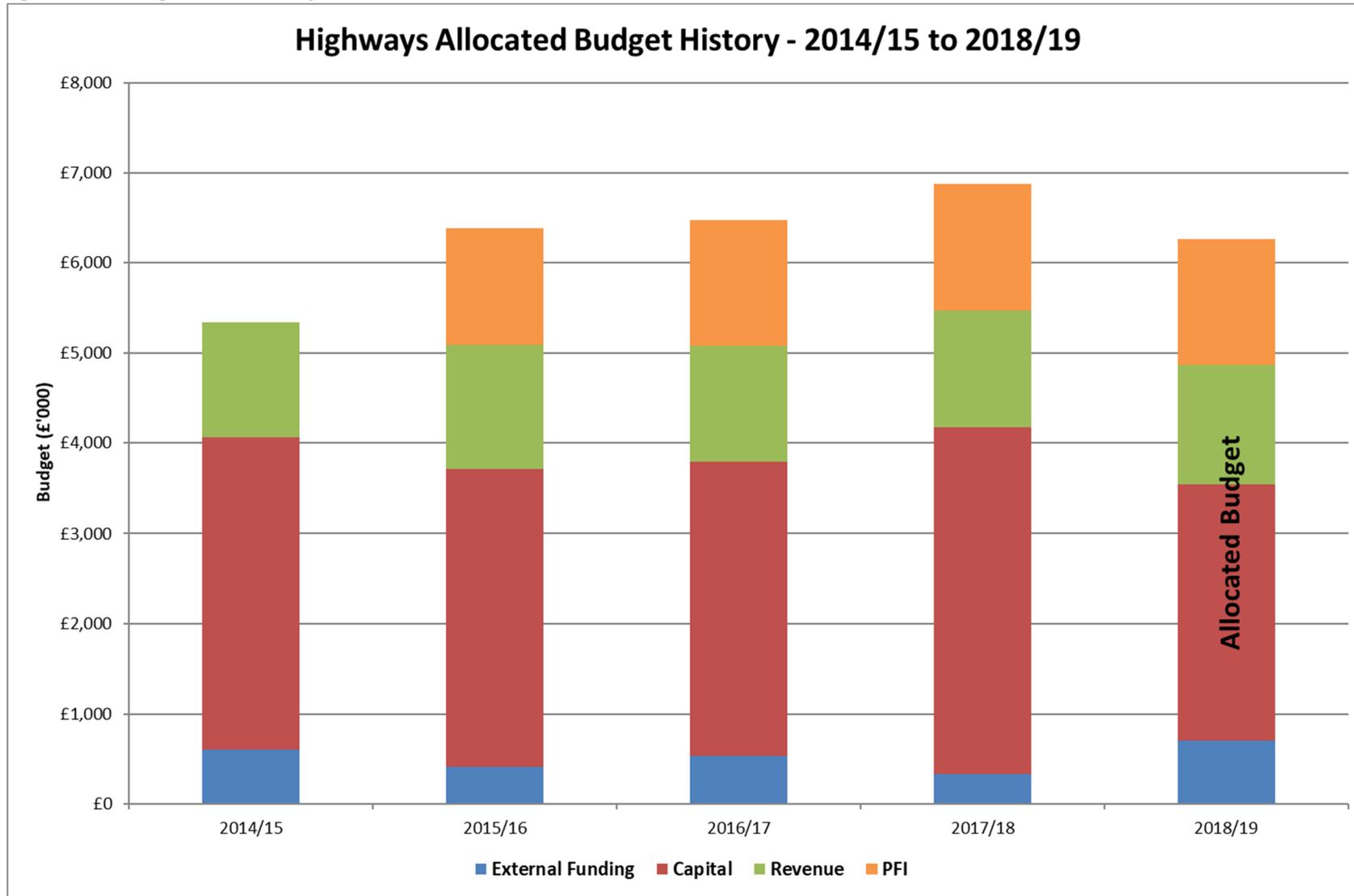
D.12. **Success Measures...** Maximising income from third parties will be essential for the long-term improvement and steady-state maintenance of the highway assets.

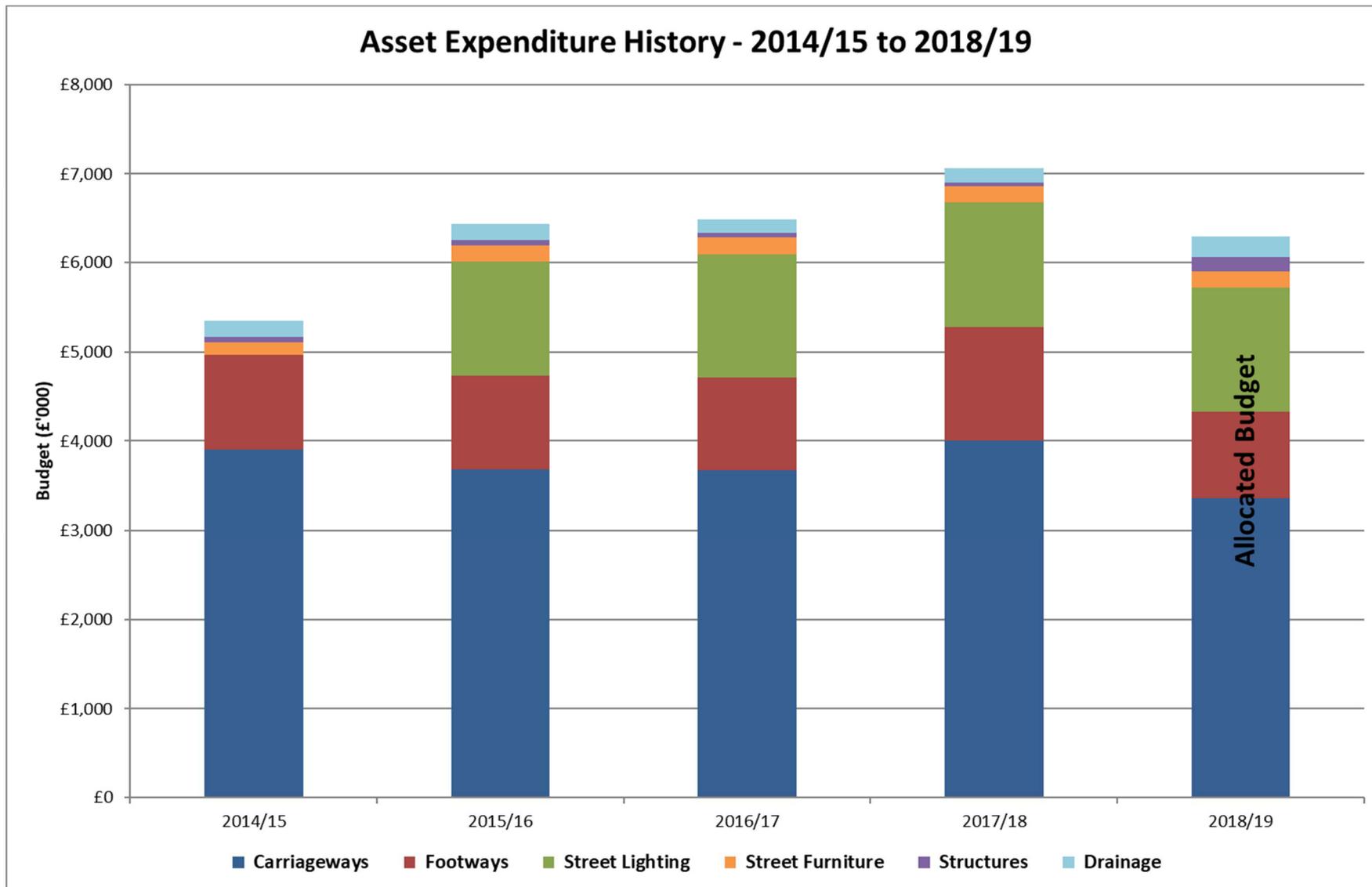
It is Lewisham’s aim to provide 80% of its expenditure as capital works and to continuously increase the income from third parties to fund its investments.

The need to inform future budgets through investment modelling, outlined in AMS (Highways) module G – Investment Strategies, will be imperative to build a good business case for alternative funding.

Further Information:
The Community Infrastructure Levy

Figure E2: Funding streams and expenditure.





HAMS MODULE F – MAINTENANCE STRATEGIES

What... A maintenance strategy is an approach to managing homogenous asset groups with consistent works proposals. These proposals are decided from considering the most efficient means of meeting the required performance targets, based on whole life cost analysis.

Why... To create a suite of works improvement options that can be drawn upon for the asset type and condition. Benefits include:

- Time saved in going through the treatment selection process for individual assets.
- A consistent aesthetic and performance across the Borough.
- Ease of comparing new treatment options on the markets.
- A better understanding of how treatments behave over time.

Who... The responsibilities for the ‘Maintenance Strategies’ module lie with:

Defining strategies	Asset Network Manager /Highways Engineering Manager
Whole life costing	Finance Officer

Updating & reporting **Asset Network Manager** module

How... Lewisham uses decision trees to determine the most suitable treatment to be adopted for homogenous asset groups, Table F1. This decision tree sets the process to be undertaken and shows the various criteria that need to be considered when selecting the maintenance treatment. For carriageways these are namely:

- Road hierarchy, which represents a specific traffic loading category.
- Construction type, which determines the likely defects to be present.
- Major defect visible, which establishes the depth of the required treatment.
- Profile adequacy, which determines whether vertical realignment is necessary.
- Cumulative defect size, which outlines whether the treatment should be carried out under the Council’s reactive or planned maintenance procedures.

This process then leads to specific treatment options. The various options are assessed for the best whole life cost solution, based on treatment

performance and cost. This determines the best maintenance solution for a homogenous asset group. This approach lends itself to ensuring different strategies for different asset types provide a ‘right for asset’ approach to long-term maintenance.

Reporting... Maintenance strategies are reviewed periodically, or when new treatment options come on-line. They are reported through investment modelling reports and business cases as an integral element of Module G - Investment Strategies.

Success Measures... To be able to demonstrate an on-going reduction in the whole life cost of asset maintenance, through the use of the most efficient maintenance strategy for the particular asset group. Provide a quality public realm for the borough.

Further Information:
LoTAG Londonwide Asphalt Specification
DMRB Volume 7 – Pavement Design and Maintenance

Table F1: Preferred maintenance strategies.

Asset	Safety Investigation Levels	Temporary Repair	Permanent Repair
<i>Carriageways</i>	50mm pothole	Cold applied material Low cost, low life expectancy.	Saw cut and patch with hot applied material By hand –medium cost, medium life expectancy. By machine – high cost, high life expectancy. Rhino patching
<i>Footways</i>	20mm pothole	Cold applied material Low cost, low life expectancy.	Saw cut and patch with hot applied material By hand – medium cost, medium life expectancy. By machine – high cost, high life expectancy. Rhino Patching
Asset	Subgroup	Interim Intervention (Amber Road Treatment)	Major Intervention (Red Road Treatment)
<i>Carriageways</i>	A Roads	Plane and Inlay - Deep Treatment – 80mm to 100mm	Partial reconstruction – 120mm to 150mm Plane and Inlay – Deep Treatment – 80mm to 100mm
	BCU Roads	Plane and Inlay – Shallow Treatment – 40mm	Partial reconstruction – 120mm to 150mm Plane and Inlay – Deep Treatment – 80mm to 100mm
<i>Footways</i>	Block & Bituminous	Inlay – 70mm to 100mm	Reconstruction – 70mm and 150mm Type1 or 80mm and Sand and 150mm Type 1
	Flagged & Mixed	Reconstruction – Flag and Sand and 150mm Type1	Reconstruction – Flag and Sand and 150mm Type1
<i>Street Lighting</i>	Managed through PFI.		
<i>Highway Structures</i>	Managed in Bridgestation.		
<i>Drainage</i>	Gully Cleansing		

AMS (HIGHWAYS) MODULE G – INVESTMENT STRATEGIES

What... Investment in the highway assets is essential to improve the condition, maintain steady-state or even just to control the rate of deterioration.

To determine the best level of investment to meet the desired outcomes, a series of strategies can be explored to understand the impact of different budget scenarios, including the impact of investing in different parts of the network.

Investment modelling is the process used to determine backlog, steady-state funding requirements, and provides analysis of differing possible budget scenarios to suggest what the short- and long-term impacts may be.

Why... Understanding how the asset will behave in differing budget scenarios helps inform the level of investment required to meet desired levels of performance. This, in turn, can advise appropriate budget levels and support decision making with a robust understanding of the impact of different investment scenarios.

Who... The responsibilities for the ‘Investment Strategies’ module lie with:

Determining strategies	Asset Network Manager/Highways Manager
Evaluation strategies	Asset Network Manager
Updating & reporting module	Asset Network Manager/Highways Manager

How... Lewisham continuously review the investment needs of the asset using condition data collected and performance measures (Module D – Performance Management).

In line with the UKRLG’s guidance, Well-managed Highway Infrastructure – A Code of Practice, Lewisham conducts investment modelling for carriageways and footways. These two assets are the most valuable part of Lewisham’s highway and currently require the greatest investment.

Figures derived through the investment modelling process for carriageways and footways are illustrated in Table G5 and are the proposed budgets to meet long term Lewisham performance targets. Approved budgets provision and changes in costs (eg; from any future tendering) will require a revision in the performance targets and will be reported in future AMS (Highways) .

Investment needs for all other asset groups are informed by the current state of good repair and performance targets.

Reporting... Investment modelling to be updated reports as and when investment budgets are approved.

For the purposes of the AMS (Highways) the investment strategy will be annually updated in line with the budgets provision.

Success Measures... To deliver the performance targets as stated in Module D – Performance Management.

Provision of a quality highway for the borough and support investments.

Table G5: Current funding proposed for each asset group from 2020/21.

Backlog		N/A
Funding Proposals (£'000)		
Carriageways	A Roads	£500 (subject to TfL approval)
	B, C & U Roads	£2,000 (subject to Council Capital approval)
Footways		£1,750 (subject to Council Capital approval)
Structures		To be agreed (Capital Bids)
Street Lighting		PFI
Street Furniture		£180 (Revenue funding)
Drainage		£240 (Revenue Funding and Capital Bids)

Further Information:
Lewisham’s Investment Strategy Modelling Reports June 2019

AMS (HIGHWAYS) MODULE H – WORKS PROGRAMME

D.13. **What...** Lewisham generates forward works programmes to gather the individual maintenance activities required for the highway assets and schedule them into a task programme.

D.14. **Why...** Developing a longer term programme of works gives greater transparency of the work to be delivered. For the residents and businesses, there is an understanding of the volume and location of work that will be delivered, and when their street will be invested in. For works delivery teams, it provides greater certainty of future orders to better resource and deliver work efficiently.

D.15. Furthermore, looking at a longer term investment in highway assets ensures the focus is kept on long-term benefits derived from the investment, as well as an ability to see what can be done with the investment provided. This approach also provides the opportunity to integrate investment plans.

D.16. **Who...** The responsibilities for the ‘Works Programme’ module lie with:

Preparing works programmes
 Updating & reporting module
Engineering Manager
Engineering Manager

D.17. **How...** Lewisham provides ongoing analysis and updates of the priority for investment of each asset based on engineering need, condition and social benefit. To achieve this, data is collected and analysed to provide a priority list of all assets within an asset group.

From this, Lewisham is able to assess the quantity of work that needs to be done, and the type of work that needs to be undertaken. The tools used for assessment are:

- Carriageways: Lewisham’s bespoke value engineering tool.
- Footways: Lewisham’s bespoke value engineering tool.
- Street Lighting: Managed through PFI.
- Highway Structures: Bridgestation.

This supports AMS (Highways) module F - Maintenance Strategies and module G - Investment Strategies. The process for developing the works programmes are shown in Figure H3, Figure H4 and Figure H5.

D.18. **Reporting...** Lewisham produces a prioritised schedule of works through stakeholder identified service measures / selection criteria. Every road section is then assigned a score which determines its priority ranking. This ranking determines the schedule of works up to the available budget. The draft works programme is then presented to Cabinet for their final approval and endorsement.

D.19. **Success Measures...** The delivery of Lewisham’s works programme is the tangible outcome of the entire asset management planning process. The programming and delivery of works align with the asset management objectives discussed in AMS (Highways) module A – Policy & Objectives, and deliver the performance targets set in module D – Performance Management.

Further Information:
ISO 55000 – Asset Management Systems
Highway Infrastructure Asset Management Guidance document, HMEP – UK RLG, 2013
UK Pavement Management System (UKPMS)

Figure H3: The works programme development process, carriageways.

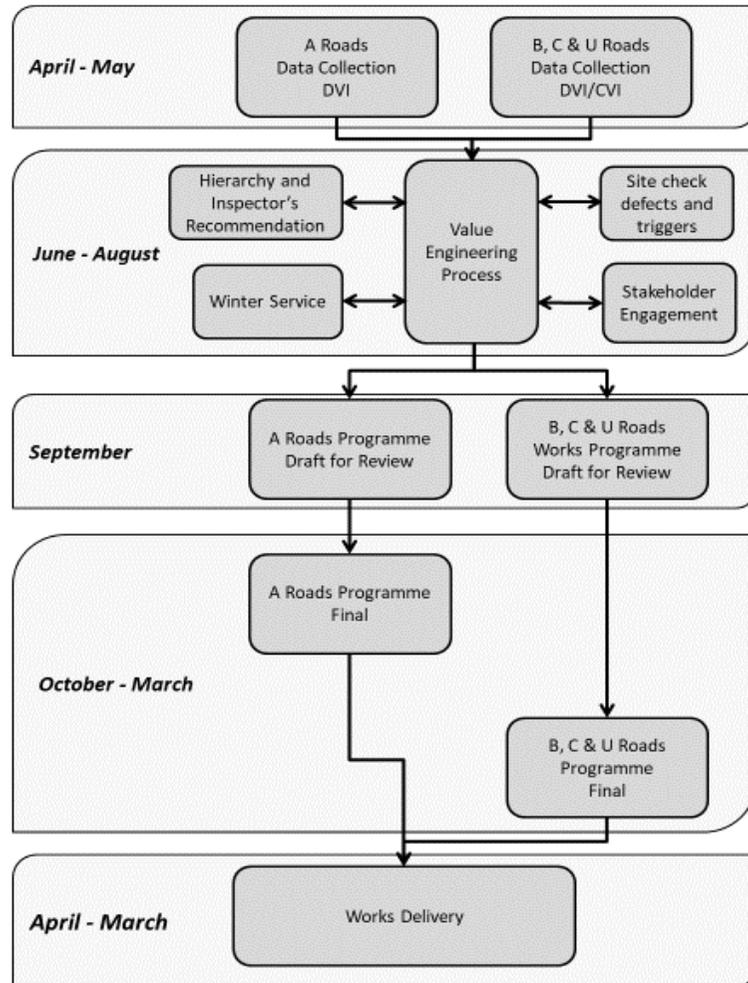


Figure H4: The works programme development process, footways.

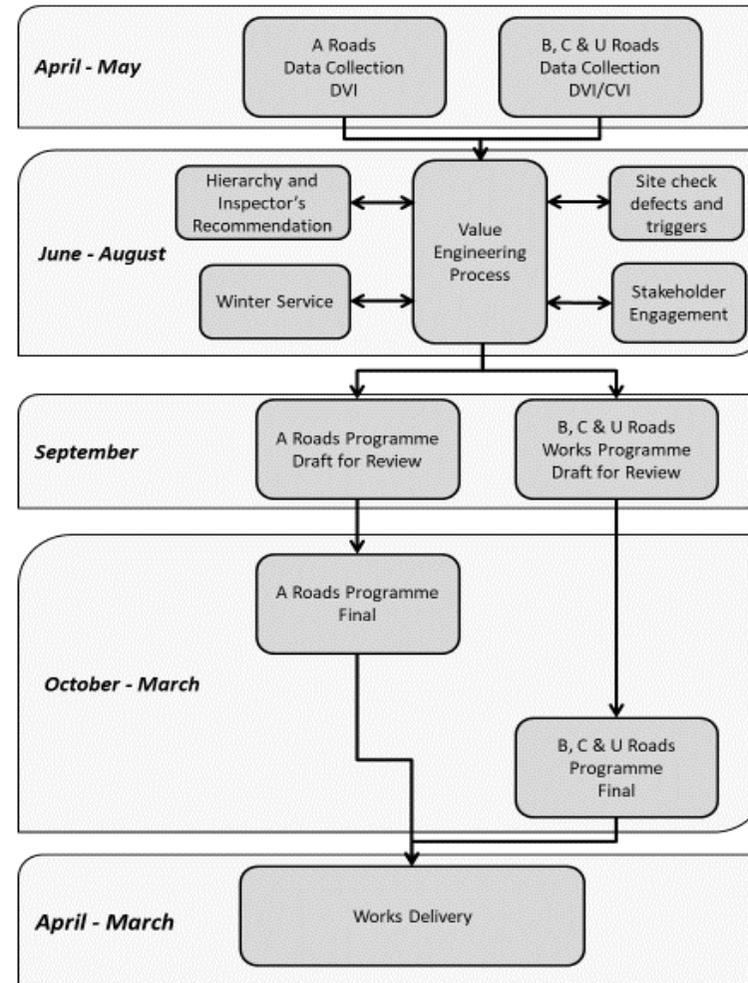
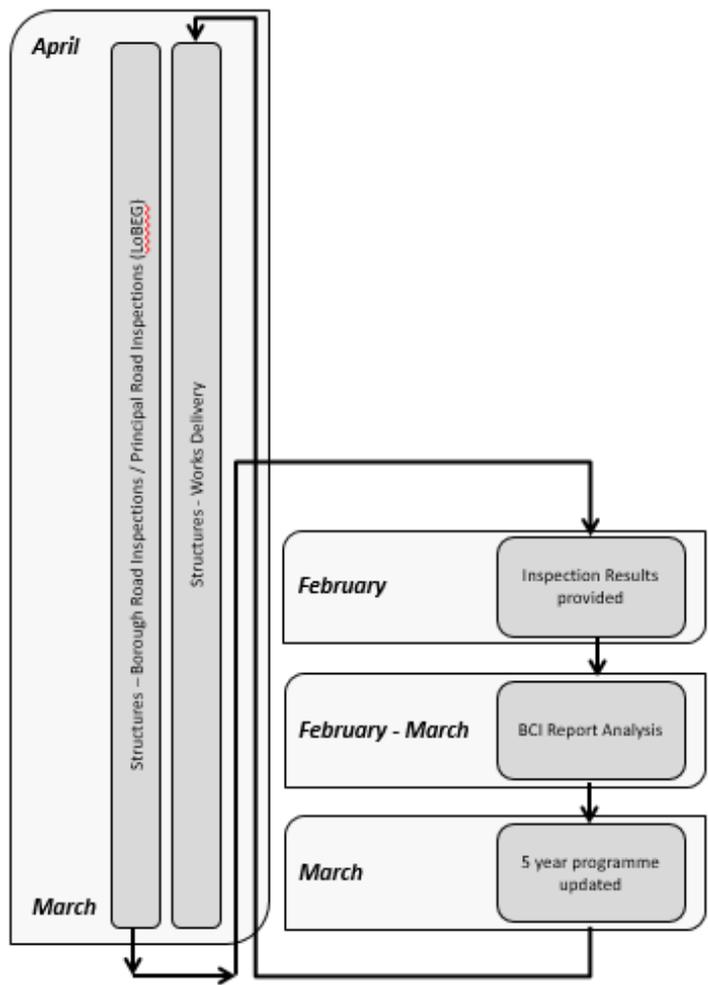


Figure H5: The works programme development process, structures



AMS (HIGHWAYS) MODULE I – STAKEHOLDER ENGAGEMENT

What... Stakeholder engagement is the process of engaging key asset users to inform the investment decision process.

Stakeholders are groups or individuals with an interest in how the highway assets are managed. These may include people with protected characteristics requiring access to the network and businesses needing good infrastructure to support their economic activity.

Most importantly it must be ensured the asset is maintained in a manner which provides a safe network, to fulfil the authority’s statutory duty.

Why... Engaging with end users ensures the social and economic benefit of the road network is recognised.

Engagement with the wider community enables decision-makers to build on engineering need and focuses investment into areas which best benefit the wider community. This ensures the benefit of budget is maximised and focuses investment activity where it is most needed, considering the entire network and this should assist with the ‘place making’ agenda.

Who... The responsibilities for the ‘Stakeholder Engagement’ module lie with:

Leading Stakeholder Engagement	Asset Network Manager
Updating & reporting module	Asset Network Manager

Those engaged with are:

- Lewisham residents through the ‘Resident’s Survey’
- Residents/tenant groups
- Local Assemblies
- Business communities
- Elected members
- Transport for London
- Education establishments

- Transport providers
- People with reduced mobility and sensory impairments
- Ethnic minority community groups
- Internal stakeholders (other Council departments)
- Others as required.

How... Lewisham engages community interest groups that can best inform the approach towards investing in the highway network through collecting and analysing the National Highways and Transport public satisfaction survey, the Resident’s Survey, and other self-developed series of questions.

Reporting... An annual ‘State of the Highway’ report is produced to demonstrate on investment needs and performance of the network. In future this report to reflect public satisfaction and performance of the network.

Success Measures... An improved public sense of engagement will be reflected in the types of work that are delivered to maintain the asset.

Wider ownership of the ‘place making’ agenda and the wider integrated investment approach.

Further Information:
Equalities Act 2010, Public-Sector Equality Duty

AMS (HIGHWAYS) MODULE J - BENCHMARKING

What... Benchmarking is the process adopted to look at how Lewisham is delivering its highway service compared to other highway authorities.

Benchmarking is used to ensure Lewisham is delivering the most effective service in the most efficient way using data to inform and allow challenges to its current processes.

For the purposes of this AMS (Highways), Lewisham determines its own performance targets, and establishes strategies and investment needs to achieve the appropriate asset performance. Lewisham’s approach ensures it delivers what is best for its community.

Why... Benchmarking informs good practice and enables Lewisham to challenge the way it operates and delivers services. The benchmarking process ensures Lewisham asks the right questions to those adopting best practices, perceived to be better performers, or delivering better outcomes to their service.

Lewisham uses benchmarking to test its approach to managing the highway assets. It looks at high performing authorities and engages with them to see how they operate differently. Lewisham

assesses how it is performing relative to others, and strives to deliver best practice. All elements benchmarked such as practices and outcomes provide a check and balance to the levels of investment that deliver the desired and expected outcomes.

Who... The responsibilities for the ‘Benchmarking’ module lie with:

Updating & reporting module **Asset Network Manager/ Highways Engineering Manager**

How... Lewisham uses a variety of benchmarking documents, surveys as follows:

- UKRLG Codes of Practice.
- SLHAM Consortium.
- LoTAG / LoTAMB / LoBEG
- HMEP Benchmarking Forum (to be launched).
- National Best Value Benchmarking Scheme.
- National Performance Indicators, Single List.
- ROADS 2000, London Borough of Hammersmith and Fulham.

These documents, surveys and forums provide an insight into Lewisham’s performance compared to

others and allowing Lewisham to track progress against the stated aims.

Reporting... The delivery of the various elements of benchmarking are ongoing throughout the year. As such it is not intended to provide detailed reporting, other than to ensure better ways of working are reflected in AMS (Highways) module updates.

To this end, such observations or major changes in performance compared to others will be noted in the annual ‘State of the Highway’ report and any comparable benchmarking against other Local Authorities.

Success Measures... Success will be measured by ensuring Lewisham remains at the forefront of delivering highway assets that meet the needs of the community in the most cost-effective and efficient manner.

Further Information:
HMEP Benchmarking Forum (to be launched)
National Best Value Benchmarking Scheme
National Performance Indicators, Single List
National Highways & Transport Survey
UKRLG Codes of Practice

Table J6: Benchmarking exercise and surveys.

Exercise / Surveys	Date Reported	Date Published	Related Modules	Performance Trend		
				Improving	Stable	Declining
National Best Value Benchmarking Scheme	April – June	September	A, D, I, J, L			
National Performance Indicators, Single List	March	April	A, D, G, H, I, J, L, K		-2%	
ROADS 2000, London Borough of Hammersmith and Fulham	Sept-Mar	May	A, D, G, H, I, J, K, L		-2%	
AIA – ALARM survey	January	April	A, I, J, L		N/A	
South London Highway Asset Management Consortium	June – April	-	D, E, F, G, J, L			

AMS (HIGHWAYS) MODULE K – ASSET VALUATION

What... Asset valuation calculates the value of all the highway assets class that Lewisham owns. The value of Lewisham highway assets in 2018/19 was at £436 million, making this the most valuable single asset in the Council’s portfolio.

Why... Lewisham calculates asset valuation primarily for WGA annual reporting purposes. However, the valuation process is also used internally for the following purposes to:

- Provide an indication of the annual change in condition of the assets in monetary terms – this illustrates improving or deteriorating condition in layman’s terms.
- Calculate the annual depreciation of the assets, which represent the annual consumption of service benefits and provide a measure of what on average needs to be spent year-on-year to maintain the assets in a steady-state.
- Produce transparent information for stakeholders, on the authority’s management of its highway assets.

It is likely that the WGA asset valuation will replace historic valuation on the Councils balance sheet in the near future.

Who... The responsibilities for the ‘Asset Valuation’ module lie with:

Statutory Duty	Finance Officer
Overall reporting	Finance Officer
Updating & reporting module	Asset Network Manager

How... Lewisham has adopted asset valuation. This will be in line with the HM Treasury’s Data Collection Tool (2014) and the CIPFA Transport Infrastructure Code, as required for WGA through the IFRS. This code entitled, *Transport Infrastructure Assets: Guidance to Support Asset Management, Financial Management and Reporting (2010)*, provides the methodology for asset valuation, whilst further supporting documentation issued by CIPFA provide tools to complete the valuation process.

Reporting... The valuation process used by Lewisham is calculated using the DRC method in line with the Code. This provides the current cost of replacing an asset with its modern equivalent, less deductions for all physical deterioration and impairment. The DRC calculation requires the GRC, which is based on the cost of constructing an equivalent new asset. The difference between the GRC and DRC represents the cost of restoring the asset from its present condition to ‘as new’.

Lewisham presents this valuation process, the calculations, and assumptions annually in a valuation report. This is important for the Council as it forms the basis of audit.

Table K1 shows Lewisham’s highway asset valuation figures for 2018/19.

Success Measures... Beyond the WGA requirements, Lewisham will utilise valuation as one of a basket of measures, to track the condition of the highway assets. Knowing the change in value year-on-year will help Lewisham better understand how effective the planned maintenance regimes are at maintaining the condition and service potential of the assets. With this knowledge, Lewisham will be placed in a better position to present cost estimates for different levels of service, and to better understand the impact on the end user for those service levels. This will, in turn, build a robust business case to access funding to ensure the highway network is fit for purpose and maintained as efficiently as possible.

Table K1: Asset valuation report figures for 2018/19.

Asset Group	GRC (£'000)	DRC (£'000)
Carriageways	£135,499	Lewisham utilises investment modelling.
Footways	£152,156	
Highway Structures	£137,700	
Street Lighting	Not reported	
Traffic Management	Owned and managed by TfL	
Street Furniture	£10,517	
Highway Land Area (m ²)	Not reported	
Gross Replacement Cost (GRC)	£ 436 million	
Further Information:		
Code of Practice on Transport Infrastructure Assets, Dec 2013.		
Whole of Government Accounts Guidance, HM Treasury.		

Asset valuation is the calculation of the current monetary value of an authority’s assets. The current monetary value is evaluated as the Depreciated Replacement Cost (DRC) of an authority’s highway infrastructure assets, where:

DRC = Gross Replacement Cost – Accumulated Consumption

The Gross Replacement Cost (GRC) for the highway infrastructure is determined from a bottom up calculation using a standardised procedure involving standardised Unit Rates and GRC models which represent the cost of replacing an existing asset with a Modern Equivalent Asset. Assets are consumed during service due to ageing, usage, deterioration, damage, a fall in the Level of Service (assessed through appropriate Performance Measures) and obsolescence.

AMS (HIGHWAYS) MODULE L – IMPLEMENTATION & IMPROVEMENT PLAN

What... The implementation and improvement plan is designed to assist Lewisham to develop and implement a continuous improvement programme to enhance its asset management processes, systems and data, and support effective delivery of its desired asset management outcomes.

Why... Continuous improvement is an essential element of asset management for Lewisham, enabling financial savings and better decisions to be made with better information. Moreover, it is the intention of the asset management plan to deliver key improvement actions.

Who... The responsibilities for the ‘Implementation & Improvement Plan’ module lie with:

Maturity Assessment	Highways Manager
Implement asset management	Various Highway Officer
Identify & deliver improvement actions	Various Highway Officer

Updating & reporting module **Asset Network Manager**

How... Lewisham undertakes continuous improvement according to ISO55000, Asset Management Systems, and as outlined in the HMEP – UK RLG Highway Infrastructure Asset Management Guidance document (2013).

A gap analysis is carried out annually, through an Asset Management Maturity Assessment, to highlight any disparity between the current and desired asset management practices at Lewisham. This identifies strengths and areas where Lewisham needs to focus its efforts and help determine improvement actions for both the short and long-term periods.

Reporting... Lewisham tabulates the issues identified and the improvement actions proposed in an improvement action plan, Table L1. This plan provides a summary of the actions that need to be

implemented and proposes target dates for completion.

Success Measures... By undertaking periodic reviews of the asset management approach, Lewisham will demonstrate its continuous improvement in asset management through efficiencies in the highway service.

Further Information:
ISO 55000 – Asset Management Systems
Highway Infrastructure Asset Management Guidance document, HMEP – UK RLG, 2013

Table L1: Improvement action plan.

Module	Action	Measure	Responsibility	Time		
				2019/2020	2020/21	Onward
A	Annual Review of AMS	Update report to M & C	Highways Manager	X		
A	State of the Highway Report	Report to M & C	Service Group Manager	X		
B	Update ownership and reporting of modules	Annual review	Service Group Manager	X		
C	Monitor and record information on Asset Knowledge	CVI's, Safety Inspections, Scrim, Scanner, Bridge Inspections, Update Asset Inventory	Highways Engineering Manager/ Asset Network Manager	X		
D	Performance Indicators	Recording and reporting	Highways Engineering Manager/ Asset Network Manager	X		
D	Review Service Level Categories and Performances	Annual report	Service Group Manager/ Highways Manager	X		
E	Seek external funding opportunities	Seek funding through LiP, CiL, S106's and developers S278's	Highways Manager/Policy Manager/ Service Group Manager	X		
F	Maintenance Strategies.	Investment Modelling	Asset Network Manager/ Highways Engineering Manager	X		
G	Periodic review of investment needs	Re-visit investment modelling process if schedule of rates changes	Highways Engineering Manager/ Asset Network Manager		X	X
H	Annual Works Programme	Work towards a programme from Capital Investment	Highways Engineering Manager	X		
I	Stakeholder Engagement	To be identified	Asset Network Manager			
J	Benchmarking	Collate benchmark information	Asset Network Manager			
K	WGA Asset Valuation	Annual update using CIPFA and consortium guidance. Keeping abreast of changes	Finance Officer	X		
L	Update Table L1		Highways Manager	X		